ROBERT CHASE – CHASE ECONOMICS

WASHINGTON STATE FOREIGN IMPORTS

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PREFACE

THE IMPORTANCE OF IMPORTS

This study documents the role of imports in the Washington State economy. Large and positive impacts on jobs are strong arguments for the value of imports. Yet the case for imports is by no means obvious. Consider these political facts:

◊ Every nation believes it must have an export strategy but no nation has an import strategy.

◊ An excess of exports over imports is defined as a "positive" balance of trade while an excess of imports over exports is defined as a "negative" balance of trade.

◊ Exports are seen as "good" because they create an inflow of capital from abroad while imports are seen as "bad" because they require an outflow of capital to foreigners.

◊ Exports are reassuring as proof of national productivity and competitiveness while imports are perceived as stealing jobs from the workers of one's own nation.

These views are so widespread that they often pass unchallenged when expressed by leaders in government, business, and labor. Yet, an equally valid set of statements exists on behalf of imports. Consider these economic facts:

◊ Without imports, there can be no exports. In fact, the two must be of equal value for world trade accounts to balance.

◊ "Export-only" strategies can easily backfire on nations that adopt them. They risk the hazards of currency devaluation, falling wages and depressed domestic demand.

◊ "Export-only" strategies worldwide would bring on a global depression, as they did in the 1930s when tariff walls were erected to discourage imports.

◊ U.S. ability to run a large "imbalance" of trade has become the major stabilizer in the world economy—crucial to the recovery in Asia and Latin America.

Yes, there is concern about the imbalance between the dollar value of U.S. imports and exports. Our "trade gap" is currently running at more than $200 billion a year, a pace that does not seem indefinitely sustainable. But if the U.S. erected trade barriers that suppressed imports the consequences would be felt worldwide. The world trade picture is a puzzle made of about 360 pieces—the imports and exports of each nation. The global economy could adjust to the removal of almost any piece except one—U.S. imports. In the debate about trade policy and amidst concern about the trade balance, this simple fact must be kept in mind.

Global concerns aside, imports benefit the U.S. economy in many ways:

◊ Most obvious, imports allow U.S. consumers to buy a wider selection of the goods they want at lower prices that stretch the purchasing power of the average paycheck.

◊ Low-priced imports help hold down inflation. This allows the Federal Reserve Bank to reduce interest rates and keep credit affordable—a key ingredient in our long boom.

◊ As much as 40 percent of U.S. imports are producer goods—inputs to products that U.S. firms export or sell at competitive prices to consumers here.

◊ Our purchase of foreign imports assists the economic recovery in other nations and boosts their ability to purchase our exports—the reverse of a depression spiral.

◊ In states with major ports, the import trade is a major source of economic vitality. Washington is an outstanding example. The Ports of Seattle and Tacoma are the second largest container cargo load center in the Western Hemisphere.

It is these benefits and impacts of imports that this study documents.

EXECUTIVE SUMMARY

The Growing Role of Trade

◊ The two most significant trends in post-war U.S. economic development have been the rapid expansion of the services sector and the growing importance of international trade.

◊ Between 1970 and 1998, U.S. gross domestic product grew at an average annual rate of 2.9 percent while U.S. exports and imports grew at annual rates of 6.9 percent and 6.5 percent, respectively (all numbers adjusted for inflation).

◊ Washington State leads the nation in per capita exports, and the export trade directly or indirectly supports one out of every four jobs in the state, according to 1997 research by economist Dick Conway.

◊ Washington State handles 6 percent of America's trade flows (exports and imports) although the state accounts for only 2 percent of U.S. population.

◊ The largest single category of trade through Washington's marine ports and airports is not exports produced in this state but foreign imports that are landed here and then shipped from Washington to purchasers elsewhere in the U.S. and Canada.

◊ Similarly, while Washington ports handle a large volume of exports from other states destined for foreign markets, a greater trade is in foreign imports for purchase within the state of Washington.

Exports and Imports: The Linked Equation

◊ Since 1960, growth in U.S. exports and imports has been comparable. Exports have risen from 4 to 13 percent of national product, while imports have climbed from 5 to 16 percent.

◊ Trade is founded on comparative advantage: each nation's focus on production of goods and services in which it enjoys a cost and/or quality edge, and use of income from sales of these products to purchase exports from other nations in their areas of comparative advantage.

◊ Wide variation exists in the ratio of dollars spent by Americans on imports versus dollars we receive through exports to our trading partners. The ratio ranges from a 20 percent return with China and a 54 percent return with Japan, to a 259 percent return with The Netherlands and a 244 percent return with Australia. The overall ratio is a 77 percent return on exports per dollar of imports.

◊ The capacity of Washington's large import-handling infrastructure also serves the state's exporters. Even the excess of imports over exports creates a specific benefit: lower backhaul rates on westbound containers, which are estimated to save agricultural and other exporters $150 to $500 in fees per container.

◊ The annual percentage change in imports to Washington has shown wide swings in the last fifteen years. Growth rates in pass-through imports have ranged from 1.1 percent to 11.2 percent while imports purchased in-state have ranged from 3.4 percent to 17.2 percent.

◊ Despite these swings, overall trends have carried totals steadily upward. Pass-through imports rose from $23 billion in 1984 to $42 billion in 1998, while in-state imports climbed from $5 billion to $14 billion in the same period.

◊ The most valuable categories of imports in 1998 were industrial machinery and computer equipment ($10 billion), electronic and electrical equipment ($7 billion), textile and apparel products ($6 billion), and motor vehicles ($5.8 billion).

◊ Washington State imports are heavily Asia-oriented, with Japan and China providing more than half the total. When the East Asian "tigers" and Canada are added, these four sources account for almost 85 percent of the total.

Imports: A Hidden Asset in the Washington State Economy

◊ 43,220 jobs are created in Washington State by pass-through foreign imports: cargoes that are landed here and shipped to final users elsewhere in North America. Direct jobs are concentrated in import-handling—largely, transportation services. Because import-handling constitutes a Washington export to other domestic states and Canada, it creates indirect jobs in other sectors within the state.

◊ The 43,220 jobs total from handling imports exceeds the jobs base in such employment centers as Kent, Bremerton, Renton, Redmond, Kirkland, and Auburn—many of whose jobs are in the import trade.

◊ Another 117,900 jobs are supported by foreign imports that stay in Washington State to be used as inputs to production or as consumer goods for final sale here. Most of the jobs supported by imports to the state are in wholesale and retail trade. These 117,900 jobs exceed the employment base in Tacoma and almost equal the Bellevue jobs base.

◊ The pass-through import trade plus foreign imports whose final destination is Washington account for a total of 161,120—about 7 percent of the total employment in the state. Washington State's role in the import trade—handling volume that is three times its share of U.S. population—is comparable to its leadership in exports per capita.

◊ When both parts of the trade equation are combined, the 25 percent share of state jobs that are export-linked and the 7 percent of jobs that are import-linked generate trade-related employment equal to about 32 percent of Washington State jobs.

◊ In the future, trade policies and decisions on infrastructure investments at marine ports and airports must be made in a context that is fully informed on the role of imports. Absent this piece, a balanced picture of the role of trade cannot be formed, even given the state's outstanding export performance.

FOREIGN IMPORTS AND THE WASHINGTON STATE ECONOMY

I. INTRODUCTION

The two most significant economic developments in post-war America have been the rapid expansion of the service sector and the growing importance of international trade. Over the last fifty years, services have become the principal source of new employment in the national economy. Between 1946 and 1998, 9 out of every 10 new jobs in the economy were created within the services sector (U.S. Bureau of Labor Statistics, 1999). Services are increasingly recognized for the important role they play in economic development. Strong growth in financial, business, and professional services have been instrumental in fostering economic vitality in several states and metropolitan centers. Furthermore, services represent a major component of the export base of many regional economies including Puget Sound. Service sector growth has been robust within Washington State; the vast majority of new jobs added to the state economy during the last half-century have been in the service sector.

Like the service sector, international trade has been expanding at a rapid rate. Between 1970 and 1998, U.S. gross domestic product grew at an annual rate of 2.9 percent in real terms while U.S. exports and imports grew at annual rates of 6.9 percent and 6.5 percent respectively (U.S. Bureau of Economic Analysis, 1999). Washington State is ideally situated for global trade. Located at an international trading crossroads, Washington has become the "most trade-dependent" state in the nation. It is not only a major trading center; its industries are heavily reliant on production of goods and services for foreign markets.

Within the global economy, the ability of a state like Washington to engage in trade beyond its borders is a key determinant of economic growth and welfare. In 1998, Washington State-originated exports were valued at $38.0 billion, including airplanes, forest products, wheat, and apples. The foreign demand for our exports affects production, jobs, and income throughout the Washington State economy. The latest *Foreign Exports and Washington State Economy* study (Conway, 1997) found that in terms of broad economic measures—such as Gross State Product, total employment, and

personal income—foreign exports directly and indirectly support nearly one-fourth of the Washington economy. This study confirmed that no state derives more economic benefit from the production of goods and services for foreign markets than Washington State.

Services are a vital component of international trade. Not only are services (like software) increasingly traded among nations, but a wide range of services is essential to the efficient functioning of international trade. These services include the arrangement and coordination of shipping; land, water, and air transportation services; warehousing; finance and insurance; and customs clearance. Such services are often "invisible" in the national balance of payments accounts and are largely overlooked within regional economic analyses.

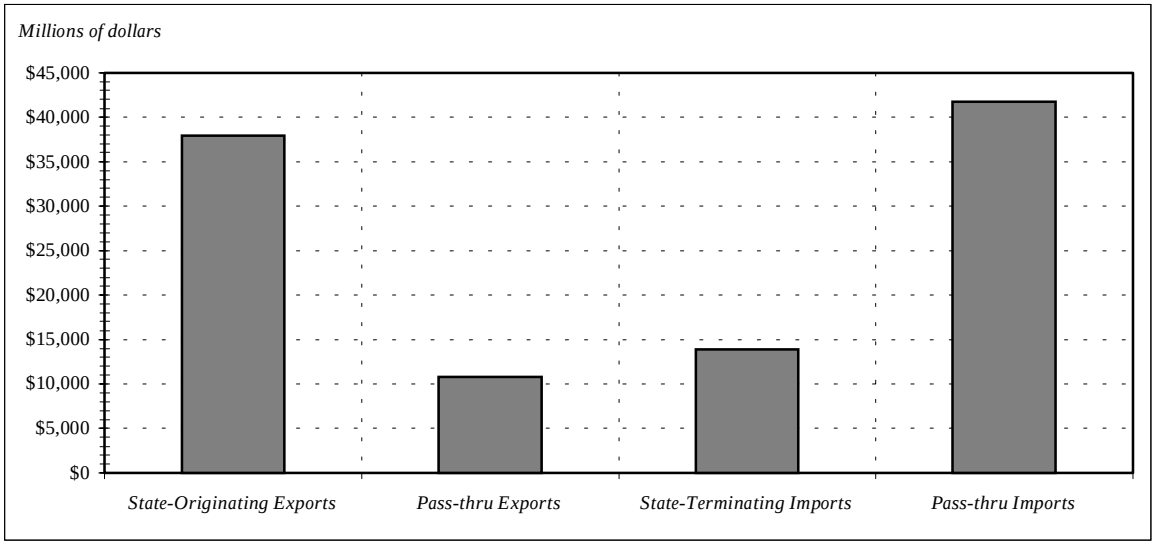
As a major trading center, Washington State is a locus for the complex of international trade services that facilitate two-way movement of cargo through its marine and airport facilities. Thanks to these facilities and attendant services (including truck and rail transport), Washington State has become a beneficiary of two-way foreign trade. Besides state-originating foreign exports, there are also:

(a) foreign exports that do not originate in-state (i.e. are produced by other states), but pass through one of the state's ports to their final foreign destination;
(b) foreign imports that do not necessarily remain in-state, but pass through one of the state's ports to their final domestic destination; and
(c) foreign imports that terminate within Washington and are used by state producers and / or consumers.

These two-way trade flows are an important source of business income, jobs, and wages. Washington State's two-way foreign trade flows, including state-originated export trade and state-terminated import trade, amounted to $104.4 billion in 1998 (Figure 1). Pass-through imports to other domestic states was valued at $41.7 billion, making it the largest among these trade flow categories, followed by state-originating exports, valued at $38.0 billion.[1] State-terminating imports and pass-through exports and were valued at $13.9 billion and $10.8 billion, respectively.

Figure 1
Foreign Trade Flows in and through Washington State, 1998

[1] The value of state-originating and pass-through exports (goods) as well as state-terminating and pass-through imports (goods) were estimated based on prior studies and reconciliation of foreign trade information from various published sources. See appendix A for fuller description.



Sources: U.S. Department of Commerce; Chase Economics

Focus of Study

This study focuses on foreign imports, with particular emphasis on the associated services connected with the movement of these imports within and through the Washington State economy. Why foreign imports? Although there has been much focus has been on the importance of foreign exports within the regional economy, comparatively little has been written about the role that foreign imports play within the Washington State economy.

Focusing on foreign imports and "pass-through" trade, the following investigation will address the following questions:

1. How do import activities affect the growth of various sectors—particularly transportation services—within the Washington economy?

2. What are the state's major foreign imports and trading partners?

3. To what extent is the Washington economy dependent upon foreign imports and "pass-through" trade?

4. How has the expansion in foreign imports and pass through trade contributed to the growth in Washington's economy?

5. What are the prospects for Washington foreign imports and pass-through commerce?

6. What are the implications for international trade policy?

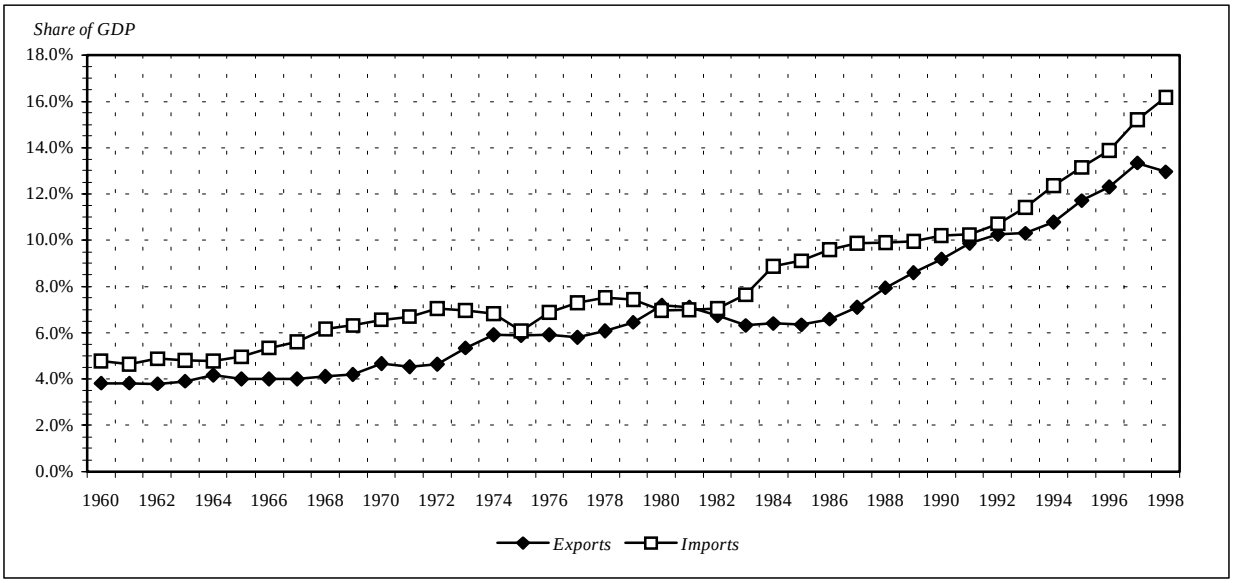
The study draws upon the analytical capabilities of the Washington Input-Output (WAIO) model (Chase, Bourque and Conway, 1993; Chase 1995; and Chase and Pascall, 1996). Initially developed at the University of Washington, the WAIO model is a regional input-output model designed for impact analysis. Through its depiction of the interrelationships (i.e., purchases and sales) among the sectors of the state economy (businesses, households, and government), the model has the capability to measure the impact of changes in one industry or sector on the rest of the economy.

The study begins with a discussion on the rationale for imports and the role of imports in economic growth. Integral with this discussion is the complex of support services that have arisen to facilitate the movement of goods into and through Washington State. The next section describes foreign import and pass-through trade in Washington, measuring its growth over the last fifteen years, evaluating the composition of imported goods through the state ports and identifying the state's major trading partners. The fourth section—the centerpiece of the study—presents estimates of the impact of foreign imports on Washington State output, employment, and personal income in 1997. This section also includes an analysis of the statewide jobs supported by foreign imports. In section five, the future of foreign trade and its impact on the Washington economy are discussed. The report concludes with a discussion of the implications for international trade policy.

II. RATIONALE FOR IMPORTS

International trade has become more important to the U.S. economy in recent decades. Figures for 1998 indicate that exports of goods and services (measured in constant 1992 dollars) were equivalent to 13.0 percent of Gross Domestic Product (GDP), nearly 3.4 times the share in 1960 (Figure 2). Imports were equivalent to 16.2 percent of GDP, about 3.4 times the share recorded in 1960. Exports clearly play a vital role within the nation's economy. Foreign exports now account for more than one-quarter of the output of U.S. goods-producing industries. Imports, as a share of total goods consumption, have increased over time and now account for about one-third of total consumption. Quite clearly, the international sector has become progressively more important to the U.S. economy since 1960. The U.S. economy's transformation into an international market has blurred the distinction between domestic and foreign markets for producers and consumers.

Figure 2
Ratio of Exports and Imports to U.S. Gross Domestic Product, 1960-1998



Note: Based on real gross domestic product using the chained (1992) dollar index.
Source: U.S. Bureau of Economic Analysis, *Survey of Current Business.*

There are several reasons for trading between regions and nations. These reasons include:

Comparative Advantage. International trade between regions or nations has been a major source of economic growth and improvement in standards of living. A region or nation specializes in producing goods or services for which it has a "comparative advantage"; that is, the region or nation focuses on products it can make better or more efficiently than others can. That region can then trade those goods or services for other goods and services produced by regions that have a comparative advantage in those other

products. By specializing and trading, the range, quality, and quantity of goods and services produced in the economy as a whole is vastly increased. An underlying implication is that because nations specialize in what they are comparatively best at producing, they must import goods and services that other countries produce best. Thus, nations are mutually better off in trading goods and services in which they enjoy a comparative advantage in exchange for goods and services that they can purchase more cheaply from others.

Imports and U.S. Competitiveness for Businesses. Related to comparative advantage is competition and competitiveness. Competition is the process by which regions and nations sort out their comparative advantage and identify their specialties. Invariably, competition encourages innovation, improvements, and gains in efficiency and productivity. Within an increasingly global market, an industry must also be competitive in domestic markets. The provincial view that these two markets are separate, at least for tradable goods and services, is no longer appropriate. Importation of capital goods, industrial supplies and materials used in domestic production reduce costs and spur innovation for U.S. businesses.

Interdependence of Exports & Imports. The United States is the world's largest exporter of goods and services, yet the U.S. generally imports even more than it exports. In an international environment of open trade, the size of the market increases and all trading countries gain. If the United States did not import, exporting would be difficult because other countries would not have the dollars needed to purchase U.S. goods and services. Table 1 shows that overall 77 cents of every dollar spent by Americans on foreign goods (i.e., imports) returns to the United States when foreign countries purchase U.S. goods (i.e., exports). For example, Canadians use about 90 cents of every dollar they earn from selling goods to American producers and consumers to purchase U.S. goods. For some trading partners, the return rate is significantly higher.

Export Assistance at the Sub-national Level. Exporters from individual states benefit from import trade flowing into and through their borders. For instance, Washington State exporters enjoy reduced freight rates shipping their goods to foreign customers due to an efficient, integrated transportation system coupled with the volume of imports passing through Washington ports to inland destinations. A specific impact is lower backhaul rates on westbound cargo containers, estimated to save Washington exporters $150-$500 per container.

Table 1
Dollars Spent by Americans on Imports Later Returned to the U.S. When Foreign Countries Purchase U.S. Exports

Country/Region	***Export/Import Dollar Ratio***
North America	$0.87
Canada	$0.89
Mexico	$0.82
European Union	$0.87
United Kingdom	$1.11
France	$0.77
Germany	$0.56
Italy	$0.46
Netherlands	$2.59
Latin America	$1.18
Brazil	$1.64
Venezuela	$0.49
Asia & Australia	$0.65
China	$0.20
Japan	$0.54
Hong Kong	$1.46
Korea, Republic of	$1.06
Singapore	$0.87
Taiwan	$0.59
Australia	$2.44
World	***$0.77***

Dollar ratio represents the total value of U.S. exports to country/region divided by the total value of U.S. imports from the country/region.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

III. WASHINGTON STATE FOREIGN IMPORTS

Past Trends and Current Situation

In the context of a regional economy like Washington State, *imports* are broadly defined to include the purchases of non-locally produced goods and services from three sources: foreign producers, producers located in the rest of the United States, and the federal government. For the purposes of this study, Washington State foreign imports refer to those goods and services produced outside of the United States. Specifically, foreign imports include the following:

(1) imports used by producers and consumers in Washington; and
(2) imports that pass through Washington ports to other destinations in the United States.

The value of foreign imports into (and through) Washington State, measured in 1998 dollars, amounted to $55.6 billion in 1998 (Table 2). With 2.1 percent of the national population, Washington accounted for 6.1 percent of all U.S. imported goods in 1998. Per capita foreign imports (goods) in Washington amounted to $9,773; compared with only $3,399 in the United States. The value of foreign trade entering and leaving Washington is at its all-time high.

Table 2
Washington State Foreign Trade, 1984-1998 (Selected Years)
millions of 1998 dollars

	1984	1986	1988	1990	1992	1994	1996	1998
Exports	$17,063	$21,970	$28,944	$41,083	$42,211	$37,613	$41,253	$48,780
State-originating	$12,102	$16,187	$19,965	$29,305	$30,121	$26,661	$26,049	$37,960
Pass-through	$4,961	$5,784	$8,979	$11,778	$12,090	$10,952	$15,204	$10,819
Imports	$28,200	$34,739	$42,207	$43,852	$45,629	$48,693	$47,861	$55,604
State-terminating	$5,630	$7,379	$9,499	$10,471	$11,521	$11,223	$11,601	$13,864
Pass-through	$22,570	$27,360	$32,708	$33,381	$34,107	$37,469	$36,260	$41,740

Sources: U.S. Department of Commerce; Chase Economics

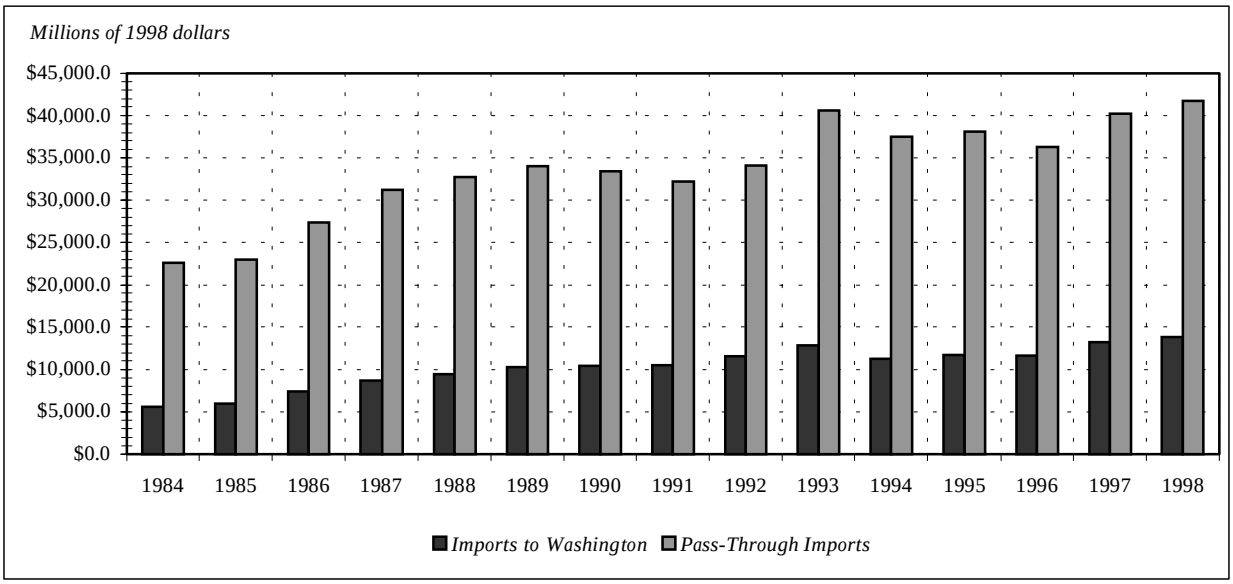
While the annual value of Washington foreign imports (both terminating and pass-through) nearly doubled between 1984 and 1998, the growth rate was volatile (Table 3). After expanding at a 12.4 percent annual rate between 1984 and 1988, the growth rate dropped by more than three-fourths between 1988 and 1992. The growth rate in foreign imports again increased between 1992 and 1998 (Figure 3). The bulk of these imports through Washington State are destined for the Midwest, Eastern U.S. and Canada.

Table 3
Washington State Foreign Imports, 1984-1998
Average Annual Percent Change

Foreign Imports	***1984-1988***	***1988-1992***	***1992-1998***	***1984-1998***
Imports to Washington	17.2%	5.3%	3.4%	10.4%
Imports Pass-Through	11.2%	1.1%	3.7%	6.1%
Total Imports	12.4%	2.0%	3.6%	6.9%

Sources: U.S. Department of Commerce; Chase Economics.

Figure 3
Value of Foreign Imports, Washington State, 1984-1998
(millions of 1998 dollars)



Sources: U.S. Department of Commerce; Chase Economics

Major Import Categories

Table 4 identifies the industry / product mix of Washington foreign imports for the years 1987, 1992, and 1998. Values are expressed in millions of 1998 dollars at producers' prices. In 1998, as in 1987, textiles and apparel, industrial machinery and computer equipment, electronic and electrical equipment, and transportation equipment accounted for the bulk of imports, although their combined share was down from two-thirds to about one-half. Other foreign imports of note include petroleum products, instruments, and lumber and wood products.

The mix of imported products to the state differs from the import mix of the nation. While 6 percent of imports entered the country through Washington ports, these ports accounted for 19 percent of all imports of lumber and wood products and 15 percent of transportation equipment (other than motor vehicles).

Table 4
Washington State Foreign Imports by Sector: 1987, 1992 and 1998

Sector	*1987*	*1992*	*1998*
Agriculture	328.2	620.5	420.4
Fishing	275.5	343.3	501.0
Mining ores	573.9	534.4	102.4
Food products	217.0	247.8	625.9
Textile and apparel products	6,452.6	7,838.6	6,158.4
Lumber and wood products	1,223.3	1,630.3	2,307.9
Furniture and fixtures	446.0	459.0	1,097.2
Paper products	876.6	737.8	1,097.1
Printing and publishing	0.0	0.0	231.9
Chemicals products	699.5	664.5	1,511.1
Petroleum products	888.7	480.2	2,570.2
Rubber and plastics	540.3	791.0	1,747.1
Leather products	51.4	43.9	772.0
Stone, clay, glass and concrete	494.7	437.0	576.6
Primary metals	529.2	448.3	1,983.1
Fabricated metals	1,117.9	1,322.5	791.8
Industrial machinery and computer equipment	7,147.3	10,394.2	10,042.1
Electronic and electrical equipment	7,527.0	5,776.6	6961.1
Transportation equipment	5,782.0	5,406.8	7,883.1
Motor vehicles	5,027.0	4,613.2	5,779.1
Other transportation equipment	755.0	793.6	2,104.0
Instruments	1,011.1	1,545.9	2,499.3
Other goods	3,510.3	5,585.3	5,724.1
TOTAL	*39,692.3*	*45,307.9*	*55,603.7*

Source: U.S. Department of Commerce

Major Trading Partners

Major trading partners with Washington are listed in Table 5. Washington marine ports and airports are a collective gateway for Asia; nearly three-fourths of all goods imports originate in Asia. Japan and China (Mainland) combine for more than half of the total goods imports in and through Washington State.

Table 5
Origination of Washington State Foreign Imports, 1998
(millions of dollars)

Origination Location	*Foreign Goods Imports*	*Percent*
WORLD	*53,193*	*100.0%*
Europe	*3,097*	*5.8%*
Western Europe	2,926	5.5%
European Union	2,858	5.4%
Non-European Union	68	0.1%
Eastern Europe	171	0.3%
Western Hemisphere	*9,960*	*18.7%*
Canada	9,663	18.2%
Mexico	15	0.0%
Central America	48	0.1%
South America	232	0.4%
Other	3	0.0%
Asia	*39,181*	*73.7%*
China	7,612	14.3%
Japan	20,833	39.2%
East Asia NICs	7,188	13.5%
Hong Kong	1,380	2.6%
Korea, South	2,354	4.4%
Singapore	237	0.4%
Taiwan	3,217	6.0%
Middle East	37	0.1%
Other Asia	3,509	6.6%
Australia & Oceania	*919*	*1.7%*
Australia	844	1.6%
New Zealand	50	0.1%
Africa	*15*	*0.0%*
Other	*21*	*0.0%*

Source: U.S. Department of Commerce

Trade through Washington ports represents a significant proportion of total U.S. trade. In 1998, over 6 percent of U.S. imports passed through ports in Customs Districts within Washington. Clearly, Washington ports' easy access to the increasingly important Pacific trade routes renders the state a critical component of the nation's international trade picture.

In many respects, trade patterns in Washington differ from those of the U.S. Because of Washington's proximity to the Far East, products that pass through Washington Custom Districts are much more likely to be traded with Pacific Rim nations than are domestic traded goods generally. In 1998, 39 percent of the dollar volume of imports into Washington was from Japan, compared to 14 for the nation.

By the same token, a smaller proportion of Washington imports, compared to the U.S., involves European countries.

Another difference in import patterns is that Washington port facilities serve a more concentrated range of trading partners. While the top ten trading partners of the U.S. accounted for 70.1 percent of all U.S. import volume, the top ten Washington import suppliers accounted for 79.4 percent of all trade through Washington ports.

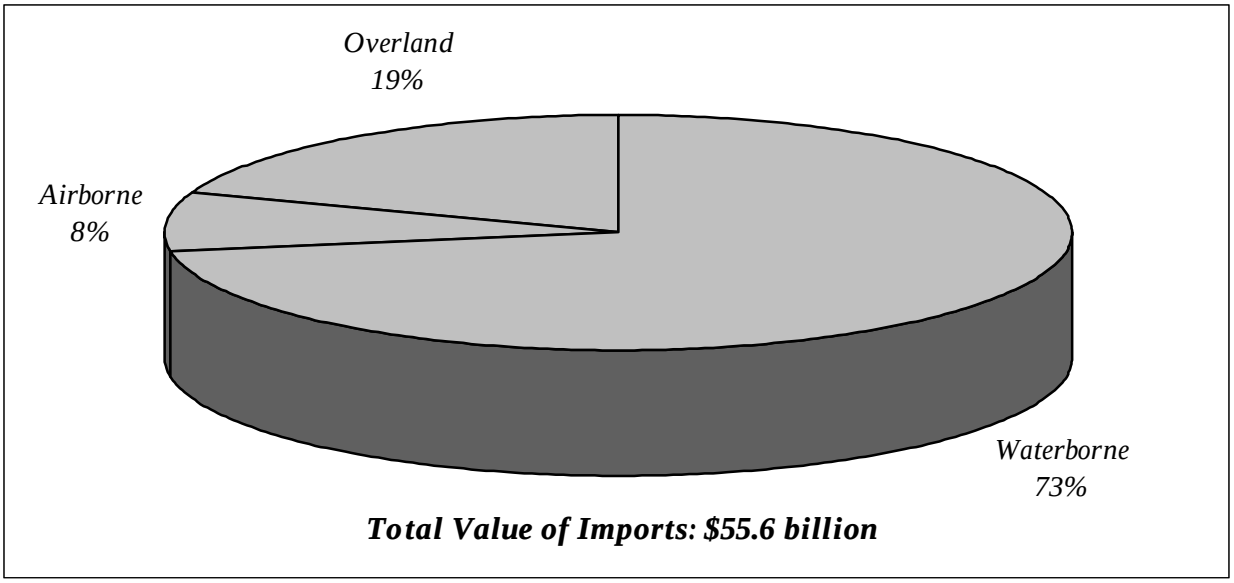
IV. ECONOMIC IMPACT OF FOREIGN IMPORTS

The Export Dimension of Foreign Imports: Focus on International Trade Services

The business of shipping cargo from a seller to a buyer in the international arena is a complex process involving a variety of activities related to the arrangement and coordination of transportation, the physical movement of cargo, and the satisfaction of governmental regulations including documentation and customs clearance. The cluster of businesses associated with the import and export of goods through the state's marine ports and airports include railroads, motor carriers, ocean carriers, air cargo and airline companies, steamship agents, ship brokers, freight forwarders, customs house brokers, insurance underwriters, financial institutions, warehouse and distribution operations, port agents, federal, state, and municipal authorities, and foreign consulates.

The core of international trade activity in Washington is in its marine ports and airport facilities. Figure 4 indicates the value of imports and exports by mode of transportation.

Figure 4
Washington Foreign Imports by Mode of Transportation, 1998



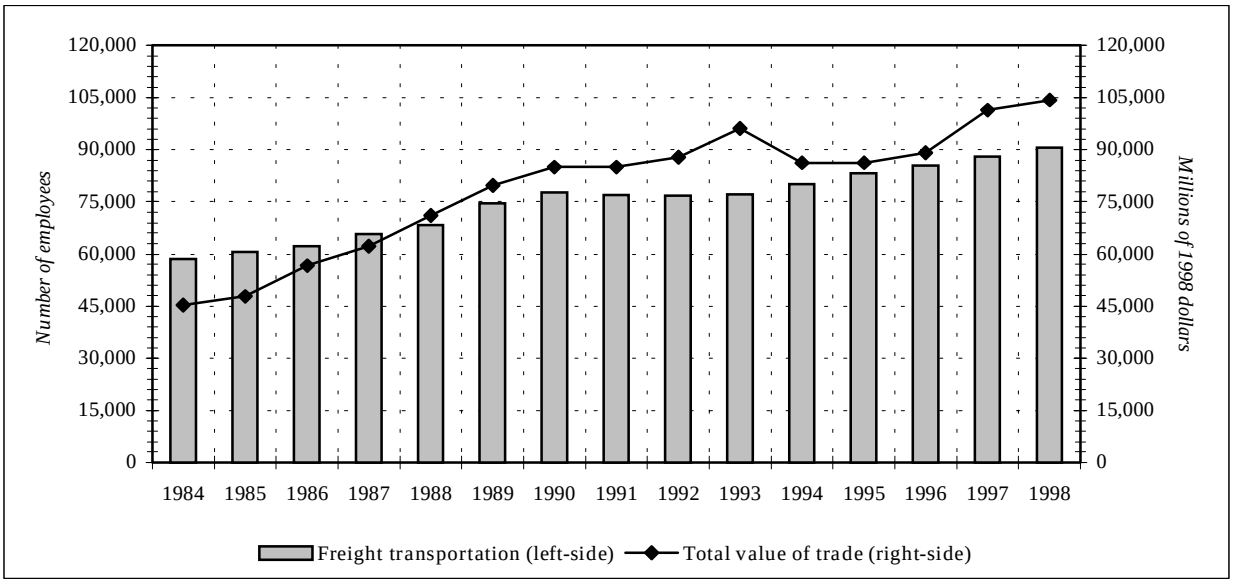
Source: U.S. Department of Commerce

The Ports of Seattle and Tacoma combined form the second largest container load center in the nation. Activities of the marine ports directly stimulate demand for other land transportation modes, particularly railroads and trucking. Additionally, port facilities stimulate demand for passenger services, cargo handling and storage, brokerage, banking, legal and insurance services. Seattle-Tacoma International Airport is the largest air cargo center in the state.

As international trade has increased in both volume and value, state employment in freight transportation has grown. Figure 5 illustrates that international trade flows (in,

out, and through) and employment have grown in tandem within Washington State. In 1997, 88,000 workers in freight transportation (rail, trucking & warehousing, water, air freighters, and freight transport arrangers) handled international trade valued at $100.8 billion.

Figure 5
Value of International Trade and Freight Transportation Employment in Washington State, 1984-1998



Sources: U.S. Department of Commerce; Washington State Employment Security Department.

Impact Methodology

The demand for foreign-made goods by U.S. buyers triggers a chain of economic relationships that affects production, employment, and income within the Washington State economy. The initiation of this economic chain reaction is found within the transportation services complex centered at the marine and airport facilities. For example, the immediate impact of the growth in pass-through import trade is an increase in transportation services production, employment and income. Transportation services also places demands on other regional businesses that supply parts and services required for handling cargo. These businesses, through the operation of their so-called backward linkages, in turn stimulate activity in other parts of the regional economy. Simultaneously, the income earned by workers in import cargo-handling transportation services and its supporting industries generates demands for consumer goods and services and the services of government, imparting yet another round of spending in the regional economy.

The Washington Input-Output (WAIO) model is an interindustry model used in measuring the total (direct and indirect) impact of foreign imports on the state economy. In order to determine the relationship between transportation services and

foreign trade (specifically, imports), information was gained through surveys. Using WAIO, the behavior of the economy is simulated with foreign imports and its initial impact on transportation services. Since WAIO is a comprehensive model, the economic impact can be expressed in terms of production, employment and income by industry.

Economic Impact of Foreign Imports on Washington State: Pass-Through Trade

Imports benefit the Washington State economy through creating jobs, adding to labor income, and increasing the value of state output. They do this in two ways. First, imported goods that are landed in Washington but destined for final use elsewhere in the U.S. or Canada require handling and processing by in-state transportation service providers. Second, imported goods that are destined for final use in this state support jobs in manufacturing (where they are used as inputs to production), in wholesale and retail trade (where they become consumer goods), and in other sectors.

In 1997, the pass-through import trade of goods destined for final use elsewhere generated 18,500 direct jobs in Washington State. These provided wage and salary workers and proprietors with $705.8 million in labor income. Most of the total jobs and income from handling foreign imports are in the transportation services sector.

In economic accounting terms, activities related to pass-through imports become Washington State exports to the rest of the nation because they bring infusion of wealth into our region from sources outside the region. In the form of payment for services, this flow of funds enlarges our economy and is thus considered a "basic" activity. One important result is the economic multiplier effect: the ability of each basic job to support other jobs through the circulation of income within the economy.

This study estimates that the employment multiplier for handling pass-through imports is 2.34. That is, 1.34 other jobs are created within the state economy for each direct job in the transportation services sector. Ninety percent of these indirect jobs are found in the trade and services sectors. Direct and indirect wage and salary workers and proprietors supported in Washington State by the pass-through import trade in 1997 totaled 43,220 (2.34 times the 18,500 direct jobs) with $1.5 billion in labor earnings. The detail is shown in Table 6.

Table 6
Washington State Economic Impacts from Pass-Through Foreign Imports, 1997

	Output (millions $)	*Employment*	*Labor income (millions $)*
Resources	30.5	181	9.6
Construction	34.8	292	12.2
Manufacturing	387.2	1,426	52.1
Transportation & utilities	2,406.7	21,712	861.1
Railroad transport	226.5	1,949	116.5
Trucking & warehousing	893.8	9,742	328.7
Water transportation	574.5	3,655	165.7
Air transportation	369.8	2,572	112.7
Transportation services	156.5	2,622	82.3
Other transport & utilities	185.6	1,171	55.2
Wholesale trade	100.7	1,038	38.3
Retail trade	354.7	7,294	135.5
Finance, insurance & real estate	288.7	1,683	89.2
Services	541.3	9,594	310.5
Business services	126.4	1,511	75.8
Other services	414.9	8,083	234.7
TOTAL	4,144.6	43,220	1,508.4

Impact of Imports Terminating in Washington State

While pass-through trade is important, another dimension of imports has an even larger impact on jobs in Washington State. About one-fifth of imports landed in Washington are destined for final use within the state, either as inputs to production or as goods in wholesale and retail trade. These uses support many types of employment, including:

- ◊ Wholesale trade reselling imports to retailers and manufacturers;
- ◊ Retail trade related to the sale of imported goods;
- ◊ Warehousing, packaging and other domestic activities involving the handling and distribution of goods with imported content;
- ◊ Manufacturing where imported components are crucial to the cost and/or quality of finished products; and
- ◊ Finance, legal, accounting and consulting services providing business management and logistic support related to domestic trade in goods with imported content.

In 1997, employment supported by imports terminating in Washington State totaled 117,900 jobs, with labor earnings of $3.6 billion. Seventy percent of these jobs were in wholesale or retail trade. Unlike the jobs in transportation services that handle pass-through imports, these jobs are not related to "exports" that earn income from outside the state. Thus, in economic terms there is no multiplier effect. As a result, the entire 117,900 jobs are considered to be indirect jobs. The detail is shown in Table 7.

Table 7
Washington Jobs Supported by Foreign Imports, 1997

Sector	*Employment*	*Labor income (millions $)*
Retail trade	50,900	1,050.0
Wholesale trade	31,900	1,170.9
Transport, communication & utilities	16,300	620.5
Services	6,500	313.2
Finance, insurance & real estate	2,400	89.6
Manufacturing	7,300	297.5
Natural resources	900	15.3
Construction	1,300	41.7
Government	400	13.6
TOTAL	117,900	3,612.4

The employment impact of foreign imports to Washington State, both from pass-through and in-state imports, totals 161,120 jobs (Table 6 and 7). This is equivalent to about 7 percent of all employment in Washington. When combined with the 25 percent share of jobs that are export-related (Conway, 1997), the entire trade-related employment base of Washington State is thus 32 percent of the total—nearly one job in three.

V. CONCLUSIONS

This study seeks to add balance by examining a neglected dimension: economic impact created by imports. Such balance is essential for the full context in which infrastructure investment and trade policy decisions must be made. In comparative terms, the 117,900 indirect jobs supported by in-state imports to Washington exceed the total number of jobs in Tacoma, the combined total for Redmond and Renton, and almost equal the total for Bellevue. The 43,220 jobs related to the pass-through import-trade outpace the employment base in economic centers such as Kent, Kirkland, Bremerton, Renton, Redmond, and Auburn.

Washington is an "entry port" state for a far larger portion of imports to the U.S. than its share of national population would suggest. The economic activity generated by Washington's role in handling imports creates more than $1.5 billion in personal income, while total income injected into the economy from all import-dependent activity is $3.6 billion.

About 70 percent of import cargoes landed at Washington ports are destined for final purchase elsewhere—mostly the Midwest and the eastern U.S. and Canada. From the viewpoint of the shipper in Asia, these are "discretionary" cargoes that could be sent to other West Coast ports. And in fact, competition for market share is fierce. The combined ports of Los Angeles-Long Beach hold first place and seek to expand their lead with massive infrastructure investments including a $4 billion package of improvements at the ports and a $2 billion fast freight route to the main east-west rail line. To the north, Vancouver's Delta Port is building state-of-the-market dockside facilities that can handle post-Panamax vessels whose decks are 18 containers in width.

The combined ports of Seattle and Tacoma hold the number two position in North America as a container cargo load center. By a wide margin, the majority of this traffic is in the import trade. While Puget Sound ports have the advantage over California ports of a day's less sailing time from Asia, they face a major challenge from competitors to the south. Most Los Angeles-Long Beach cargoes are not transshipped to the east. Seventy percent are consumed in the huge Southern California market, enabling ports in that region to charge higher fees to land "non-discretionary" cargoes destined for purchase in the immediate area. The resulting revenues can be reinvested in infrastructure that enhances capacity and efficiency. By contrast, Puget Sound ports must compete in part through lower fees and charges and, thus, lower net revenues.

The purpose of this study has been to round out a picture that until now has been heavily focused on the export side, where Washington leads the nation in per capita performance. The choice of our future role in the import trade is, in many ways, up to us. One course is to lag in infrastructure investment and allow market share to erode. The other option is to maximize strategic advantages and overcome handicaps in every way possible, not only in order to hold market share but to serve the growing volume of

trade that is an inevitable trend on the Pacific Rim. Essential to making this choice and following through to implement strategies is full awareness of what it means for our economy to be fully competitive on both sides of the trade equation.

APPENDIX A: IMPACT ANALYSIS METHODOLOGY

Foreign Export and Import Estimates (Goods)

Estimates of Washington State-originating foreign exports by industry and Washington State-terminating foreign imports by industry were made based on prior Washington State input-output studies. The input-output tables represent the only comprehensive attempts to measure foreign sales and purchases by industry. In addition, the *Foreign Exports and the Washington State Economy* study (Conway, 1997) provides a consistent methodology in estimating foreign exports originating by Washington State industry.

The starting point for estimating state-originating and pass-through exports as well as state-terminating and pass-through imports is the input-output data. The input-output studies for 1982, 1987, 1992 and 1994, both published and unpublished, provide the principal source of information (Chase, Bourque and Conway, 1993; Chase and Pascall, 1996; and Chase, 1996). These studies provide reasonable estimates on state-originating exports and state-terminating imports.

The estimating procedure involves the reconciliation of Washington foreign trade information from various published sources. Along with the input-output studies and the Conway report, these include the U.S. Department of Commerce foreign trade statistics prepared by JTS Associates and the Massachusetts Institute for Social and Economic Research (MISER). Values are given in current dollars, thereby necessitating a conversion into constant 1998 dollars. National price deflators developed by the U.S. Bureau of Labor Statistics are used for this purpose.

Impact Analysis Methodology

The economic impact analysis conducted for this study is based upon an input-output model. An input-output model, as represented by the table of output (production or sales), employment and income multipliers, is the analytical method most commonly used to measure economic impacts. Five survey-based input-output models for Washington State have been constructed, the most recent published one being for 1987 (Chase, Bourque and Conway, 1993). Subsequent, but unpublished updates of the Washington State Input-Output Model have been covered the years 1992, 1994 and 1996).

One of the most important uses of the input-output is that it serves as the basis for estimating the multiplier or "ripple" effects of changes in exports (or other types of expenditures not basically dependent on changes within the state economy) for one sector of the economy upon other sectors. Because the model takes into consideration the complex inter-industry connections in the state economy, calculated impacts will include not only those people directly involved in producing goods and services for

export, but also the indirect impacts, such as the increase in work and hence in jobs in those industries in the state that supply the needs of the industries that export directly. Furthermore, they include impacts induced by the spending of incomes earned in export-related jobs.

In this study, research was focused on the "export" dimension of handling pass-through foreign imports in Washington. Washington-based transportation firms provide services in handling cargoes at ports-of-entry ultimately destined for markets in the Midwest and the East Coast. These firms provide a whole range of services—warehousers and truckers, stevedores, brokers and consolidators, freight forwarders, logistics, steamship agents, air freighters, and rail transporters—in transshipment of cargoes to other domestic markets.

In order to estimate the direct effects of handling foreign cargoes for other final domestic markets, a survey form was sent to 150 firms involved in providing transportation services associated foreign imports. Over forty firms responded to the survey in providing information for this study.

Imports terminating in Washington State are indirectly related to basic activity. An expansion in export-related production within Washington calls forth an increase in nonbasic activity (including importing, retailing, and housing investment). Thus, within this impact analysis context imports are counted as only part of the indirect effect. Estimation of import-related employment was made using the Washington State Input-Output Model.

APPENDIX B:
GLOSSARY OF TERMS RELATING TO INTERNATIONAL TRADE

APEC – The Asian Pacific Economic Cooperation Group was established in 1989 in response to the growing interdependence among Asian-Pacific economies. Begun as an informal dialogue group, APEC has become a primary vehicle for promoting open trade and economic cooperation within the region. As of May 1999, its members are (in order of joining) Australia, Brunei, Canada, Indonesia, Japan, South Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, United States, China, Hong Kong, Taiwan, Mexico, Papua New Guinea, Chile, Peru, Russia, and Vietnam.

Antidumping duty – A duty imposed by the United States to offset any profits that a foreign firm attempts to make by dumping merchandise on the U.S. market.

ASEAN – Association of Southeast Asian Nations, consisting of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

Carrier – The firm that physically transports the cargo. Carriers include steamship lines, trucking firms, railroads, and air carriers.

c.i.f. – Cost, insurance and freight. A pricing term indicating the cost of the goods, insurance, and freight are included in the quoted price.

Constant dollars (or "real" dollars) – Output values converted to a base price level (e.g., 1992 or 1998), calculated by dividing current or actual dollars by a deflator. Use of constant dollars eliminates the effects of price changes between the year of measurement and the base year and allows calculation of real changes in output.

Containerization - The transportation of general cargo in standardized containers. Containerization has revolutionized waterborne trade, resulting in more efficient cargo handling and quicker turnaround times for ocean-going ships. Containers are designed to be easily interchangeable between different modes of transportation – ship, truck, rail, and air.

Countervailing duty – A retaliatory charge that a country places on imported goods to counter direct or indirect subsidies granted to the exporters of the goods by their home governments.

Current dollars – The actual dollar amount paid in sales transactions.

Custom house broker – A firm that specializes in the clearance of cargo through customs. Its functions include determining proper customs classifications for cargo, calculating duties, handling bonding formalities and requirements, and arranging for

storage, inspection, and inland transportation. Customs house brokers are licensing by the U.S. Treasury Department.

Dumping – A term used in international trade that refers to the sale of a product in export markets below the selling price for the same product in the exporter's domestic market, or lower than the cost of manufacturing and marketing such goods in the domestic market.

Export-Import Bank (Eximbank) – An autonomous agency of the U.S. government created in 1934 to facilitate the export trade of the United States.

f.a.s. (free alongside ship) – The transaction price of an export product, including freight, insurance, and other charges incurred in placing the merchandise alongside the carrier in the U.S. port.

f.o.b. (free-on-board) – Without charge for delivery of export merchandise to, and placing on board, a transportation carrier at a specified point.

Foreign trade zones (FTZs) – Designated areas in the United States, usually near ports of entry, considered to be outside the customs territory of the United States. Also known as free trade zones.

Foreign direct investment – The flow of foreign capital into a business enterprise in which foreign residents have significant control.

Freight forwarder – Freight forwarders arrange for the transportation of goods in international trade. Principal activities include advising customers on shipping conditions, selecting the route and carriers for the shipment, arranging for all necessary transportation, booking space, preparing the documentation required for shipping, arranging insurance coverage, and arranging the payment for the shipment. Freight forwarders are regulated and licensed by the Federal Maritime Commission.

G-7 (Group of Seven) – Seven industrial countries—United States, Japan, Germany, France, United Kingdom, Italy, and Canada. G-7 governments have met at annual economic summits since 1975. G-7 finance ministers meet periodically to discuss economic issues of concerns.

General Agreement on Tariffs and Trade (GATT) – An international organization and code of common regulations and obligations concerning international trading arrangements to liberalize world trade that has evolved out of the multilateral trade treaty signed in 1947. A total of eight rounds of the agreement have been negotiated and passed, the final one being the Uruguay Round. It was replaced by the World Trade Organization (WTO) on January 1, 1995.

Generalized Agreement on Trade in Services (GATS) – Expands the rules on trade in goods that were negotiated under GATT auspices to include trade in services.

Intermodalism – A method of transportation which involves the uninhibited movement of containers by two or more different modes of transport. Its object is to transfer cargo on a continuous flow through the entire transportation chain from origin to final destination.

International Monetary Fund (IMF) – Established in 1945, the IMF serves as a permanent forum for its member countries to discuss and to coordinate economic and financial policies. Its capital is derived from subscriptions from member countries and is used to provide assistance to members facing relatively short-term economic difficulties.

ISO 9000 – A series of five standards (9000-9004) of the International Standards Organization (ISO), an international agency that promotes quality standards in products and systems.

Most-favored-nation (MFN) trade status – An arrangement in which GATT (now WTO) countries must extend to all other members the most favorable treatment granted to any trading partner, thus assuring that any tariff reductions or other trade concessions are automatically extended to all GATT parties.

North American Free Trade Agreement (NAFTA) – Agreement creating a free trade area among the United States, Canada and Mexico. The agreement became effective January 1, 1994.

Organization for Economic Cooperation and Development (OECD) – A group of 29 industrialized market economy countries that aims to promote its members' economic and social welfare, and to stimulate economic development efforts in developing countries. The OECD was established in 1961 and is headquartered in Paris, France. Member countries as of May 1999 are Austria, Australia, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, New Zealand, the Netherlands, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.

Shipper – Firm or individual from whom the shipment is sent (i.e., the originator of the shipment).

Stevedore – A firm or individual that contracts to load or discharge a vessel's cargo. In order to perform his responsibilities, the stevedore employs "longshoremen," who perform the physical work of loading and unloading ships.

TEU (Twenty-foot Equivalent Unit) – Used as the standard measure for the container carrying capacity in terms of an 8x8x20-ft. size container.

Uruguay Round – Eighth and final round of multilateral trade negotiations held under GATT auspices. It is named for the country where initial discussions began in September 1986 and concluded in December 1993. Most of the negotiations have taken place in Geneva, Switzerland.

Voluntary restraint agreement (VRA) – An import relief devise to limit foreign trade in a particular commodity to protect domestic industry from injury by foreign competition. Sometimes referred to as a "voluntary export restraint" or an "orderly marketing agreement."

World Bank – This term refers to the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). The World Bank is the largest provider of development assistance to developing countries and countries in transition, committing $20 billion in new loans each year. Its main focus is to help people in developing countries raise their standard of living through finance for agriculture, schools, health programs, transportation, and other essential needs.

World Trade Organization (WTO) – Created by the Uruguay Round to succeed GATT on January 1, 1995, it expands GATT's rules to apply to trade in services and intellectual property rights. A tribunal to adjudicate trade disputes was also established.

REFERENCES

Baughman, Laura. *Imports and America: The Rest of the Story*. Prepared for the Council of the Americas and the National Retail Institute by The Trade Partnership. Washington, DC: Council of the Americas, August 1998.

Burtless, Gary, Robert Z. Lawrence, Robert E. Litan, and Robert J. Shapiro. *Globaphobia: Confronting Fears About Open Trade*. Washington, DC: The Brookings Institution, 1998.

Chase, Robert A., Philip J. Bourque and Richard S. Conway, Jr. *The 1987 Washington State Input-Output Study*. Prepared for the Washington State Office of Financial Management and the Washington State Department of Transportation. Seattle, WA: Graduate School of Business Administration, University of Washington. September 1993.

Chase, Robert A. and Glenn Pascall. *Jobs Today--Jobs Tomorrow: An Economic Analysis of the Puget Sound-Alaska Partnership*. Prepared for the Ports of Seattle & Tacoma and Chambers of Commerce of Tacoma and Seattle, February, 1996.

Chase, Robert A. *Eastern Washington Transport-Oriented Input-Output Study: Technical Report*. EWITS Research Report No. 10. Prepared for the Eastern Washington Intermodal Transportation Study Unit, Washington State University, Pullman, February 1996.

Conway, Jr., Richard S. *Foreign Exports and the Washington State Economy. Prepared for the Washington State Department of Community, Trade & Economic Development*, Seattle, WA, March 1997.

The Columbus Group and BST Associates with WEFA, Inc. and Reebie Associates. *1999 Marine Cargo Forecast: Technical Report*. Prepared for the Washington Ports Association and Washington State Department of Transportation. Olympia, WA: Washington Ports Association and Washington State Department of Transportation, March 1999.

Commission on United States-Pacific Trade and Investment Policy. *Building American Prosperity in the 21st Century: U.S. Trade and Investment in the Asia Pacific Region*. Washington, DC: Commission on United States-Pacific Trade and Investment Policy, April 1997.

Herreid, Todd. *Washington State Strategic Freight Movement*. Olympia, WA: Washington State Department of Transportation, Transportation Economic Partnerships Division and Economics Branch, Planning & Programming Service Center, January 1998.

Hervey, Jack L. "Foreign Trade and the U.S. Economy." *Chicago Fed Letter*. Number 91 (March 1995). The Federal Reserve Bank of Chicago.

McGraw-Hill Companies and U.S. Department of Commerce, International Trade Division. U.S. Industry & Trade Outlook '99. Washington, DC: U.S. Department of Commerce, 1999.

Rodrik, Dani. *Has Globalization Gone Too Far?* Washington, DC: Institute for International Economics, 1997.